

SEQUENCE LISTING

<110> Smit, John

<120> PRODUCTION OF HETEROLOGOUS POLYPEPTIDES  
FROM FRESHWATER CAULOBACTER

<130> 08106-005001

<140> 09/913,414

<141> 2001-08-13

<150> PCT/CA00/00173

<151> 2000-02-21

<150> CA 2261186

<151> 1999-02-19

<160> 7

<170> FastSEQ for Windows Version 4.0

<210> 1

<211> 82

<212> PRT

<213> Caulobacter crescentus

<400> 1

Ala	Phe	Gly	Ala	Ala	Val	Thr	Leu	Gly	Ala	Ala	Ala	Thr	Leu	Ala	Gln
1				5				10					15		
Tyr	Leu	Asp	Ala	Ala	Ala	Ala	Gly	Asp	Gly	Ser	Gly	Thr	Ser	Val	Ala
		20					25					30			
Lys	Trp	Phe	Gln	Phe	Gly	Gly	Asp	Thr	Tyr	Val	Val	Val	Asp	Ser	Ser
		35				40					45				
Ala	Gly	Ala	Thr	Phe	Val	Ser	Gly	Ala	Asp	Ala	Val	Ile	Lys	Leu	Thr
	50				55				60						
Gly	Leu	Val	Thr	Leu	Thr	Thr	Ser	Ala	Phe	Ala	Thr	Glu	Val	Leu	Thr
65				70				75				80			
Leu	Ala														

<210> 2

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic primer

<400> 2

cggaatcgcg ctacgcgctg g

<210> 3

<211> 20

<212> DNA

Met 1	Phe	Lys	Arg	Ser 5	Gly	Ala	Lys	Pro	Thr 10	Ile	Phe	Asp	Gln	Ala 15	Val
Leu	Val	Ala	Arg 20	Pro	Ala	Val	Ile	Thr 25	Ala	Met	Val	Phe	Ser 30	Phe	Phe
Ile	Asn 35	Ile	Leu	Ala	Leu	Val	Ser 40	Pro	Leu	Tyr	Met	Leu	Gln 45	Val	Tyr
Asp	Arg 50	Val	Leu	Thr	Ser	Arg 55	Asn	Val	Ser	Thr	Leu	Ile 60	Val	Leu	Thr
Val 65	Ile	Cys	Val	Phe	Leu 70	Phe	Leu	Val	Tyr 75	Gly	Leu	Leu	Glu	Ala	Leu 80
Arg	Thr	Gln	Val 85	Leu	Val	Arg	Gly	Gly 90	Leu	Lys	Phe	Asp	Gly 95	Val	Ala
Arg	Asp	Pro 100	Ile	Phe	Lys	Ser	Val 105	Leu	Asp	Ser	Thr	Leu 110	Ser	Arg	Lys
Gly	Ile 115	Gly	Gly	Gln	Ala	Phe 120	Arg	Asp	Met	Asp	Gln	Val 125	Arg	Glu	Phe
Met	Thr 130	Gly	Gly	Leu	Ile	Ala 135	Phe	Cys	Asp	Ala	Pro 140	Trp	Thr	Pro	Val
Phe 145	Val	Ile	Val	Ser 150	Trp	Met	Leu	His 155	Pro	Phe	Phe	Gly 160	Ile	Leu	Ala 160
Ile	Ile	Ala	Cys 165	Ile	Ile	Ile	Phe	Gly 170	Leu	Ala	Val	Met 175	Asn	Asp	Asn
Ala	Thr	Lys	Asn 180	Pro	Ile	Gln	Met 185	Ala	Thr	Met	Ala	Ser 190	Ile	Ala	Ala
Gln	Asn 195	Asp	Ala	Gly	Ser	Thr	Leu 200	Arg	Asn	Ala	Glu 205	Val	Met	Lys	Ala
Met	Gly 210	Met	Trp	Gly	Gly	Leu 215	Gln	Ala	Arg	Trp	Arg 220	Ala	Arg	Arg	Asp
Glu 225	Gln	Val	Ala	Trp 230	Gln	Ala	Ala	Ala	Ser 235	Asp	Ala	Gly	Gly	Ala	Val 240
Met	Ser	Gly	Ile 245	Lys	Val	Phe	Arg	Asn 250	Ile	Val	Gln	Thr 255	Leu	Ile	Leu
Gly	Gly	Gly	Ala 260	Tyr	Leu	Ala	Ile	Asp 265	Gly	Lys	Ile	Ser 270	Ala	Gly	Ala
Met	Ile 275	Ala	Gly	Ser	Ile	Leu 280	Val	Gly	Arg	Ala	Leu 285	Ala	Pro	Ile	Glu
Gly	Ala 290	Val	Gly	Gln	Trp	Lys 295	Asn	Tyr	Ile	Gly	Ala 300	Arg	Gly	Ala	Trp
Asp 305	Arg	Leu	Gln	Thr 310	Met	Leu	Arg	Glu	Glu	Lys 315	Ser	Ala	Asp	Asp	His 320
Met	Pro	Leu	Pro 325	Glu	Pro	Arg	Gly	Val 330	Leu	Ser	Ala 335	Glu	Ala	Ala	Ser
Ile	Leu	Pro	Pro	Gly	Ala	Gln	Gln	Pro	Thr	Met	Arg	Gln	Ala	Ser	Phe

Arg	Ile	Asp	Ala	Gly	Ala	Ala	Val	Ala	Leu	Val	Gly	Pro	Ser	Ala	Ala	
		355					360					365				
Gly	Lys	Ser	Ser	Leu	Leu	Arg	Gly	Ile	Val	Gly	Val	Trp	Pro	Cys	Ala	
	370					375					380					
Ala	Gly	Val	Ile	Arg	Leu	Asp	Gly	Tyr	Asp	Ile	Lys	Gln	Trp	Asp	Pro	
385					390					395					400	
Glu	Lys	Leu	Gly	Arg	His	Val	Gly	Tyr	Leu	Pro	Gln	Asp	Ile	Glu	Leu	
				405					410					415		
Phe	Ser	Gly	Thr	Val	Ala	Gln	Asn	Ile	Ala	Arg	Phe	Thr	Glu	Phe	Glu	
			420					425					430			
Ser	Gln	Glu	Val	Ile	Glu	Ala	Ala	Thr	Leu	Ala	Gly	Val	His	Glu	Met	
		435					440					445				
Ile	Gln	Ser	Leu	Pro	Met	Gly	Tyr	Asp	Thr	Ala	Ile	Gly	Glu	Gly	Gly	
	450					455					460					
Ala	Ser	Leu	Ser	Gly	Gly	Gln	Arg	Gln	Arg	Leu	Ala	Leu	Ala	Arg	Ala	
465				470						475					480	
Val	Phe	Arg	Met	Pro	Ala	Leu	Leu	Val	Leu	Asp	Glu	Pro	Asn	Ala	Ser	
				485					490					495		
Leu	Asp	Gln	Val	Gly	Glu	Val	Ala	Leu	Met	Glu	Ala	Met	Lys	Arg	Leu	
			500					505					510			
Lys	Ala	Ala	Lys	Arg	Thr	Val	Ile	Phe	Ala	Thr	His	Lys	Val	Asn	Leu	
	515						520					525				
Leu	Ala	Gln	Ala	Asp	Tyr	Ile	Met	Val	Ile	Asn	Gln	Gly	Val	Ile	Ser	
	530					535					540					
Asp	Phe	Gly	Glu	Arg	Asp	Arg	Cys	Trp	Pro	Ser						
545				550						555						

<210> 5

<211> 435

<212> PRT

<213> Caulobacter crescentus

<400> 5

Met 1	Lys	Pro	Pro	Lys 5	Ile	Gln	Arg	Pro	Thr 10	Asp	Asn	Phe	Gln	Ala 15	Val
Ala	Arg	Ile	Gly 20	Tyr	Gly	Ile	Ile	Ala 25	Leu	Thr	Phe	Val	Gly 30	Leu	Leu
Gly	Trp	Ala 35	Ala	Phe	Ala	Pro	Leu 40	Asp	Ser	Ala	Val	Ile 45	Ala	Asn	Gly
Val	Val 50	Ser	Ala	Glu	Val	Ser 55	Gln	Asp	Val	Gln	His 60	Leu	Glu	Gly	Gly
Met 65	Leu	Ala	Lys	Ile 70	Leu	Val	Arg	Glu	Gly	Glu 75	Lys	Val	Lys	Ala 80	Gly
Gln	Val	Leu	Phe 85	Glu	Leu	Asp	Pro	Thr 90	Gln	Ala	Asn	Ala 95	Ala	Ala 95	Gly
Ile	Thr	Arg	Asn 100	Gln	Tyr	Val	Ala 105	Leu	Lys	Ala	Met	Glu 110	Ala	Arg	Leu
Leu	Ala	Glu 115	Arg	Asp	Gln	Arg	Pro 120	Ser	Ile	Ser	Phe 125	Pro	Ala	Asp	Leu
Thr	Ser 130	Gln	Arg	Ala	Asp 135	Pro	Met	Val	Ala	Arg 140	Ala	Ile	Ala	Asp	Glu
Gln 145	Ala	Gln	Phe	Thr 150	Glu	Arg	Arg	Gln	Thr	Ile 155	Gln	Gly	Gln	Val	Asp 160
Leu	Met	Asn	Ala 165	Gln	Arg	Leu	Gln	Tyr 170	Gln	Ser	Glu	Ile 175	Glu	Gly	Ile
Asp	Arg	Gln	Thr	Gln	Gly	Leu	Lys	Asp	Gln	Leu	Gly	Phe	Ile	Glu	Asp

```

      180      185      190
Glu Leu Ile Asp Leu Arg Lys Leu Tyr Asp Lys Gly Leu Val Pro Arg
      195      200      205
Pro Arg Leu Leu Ala Leu Glu Ala Arg Ala Gly Ser Leu Ser Gly Ser
      210      215      220
Ile Gly Arg Leu Thr Ala Asp Arg Ser Lys Ala Val Gln Gly Ala Ser
      225      230      235      240
Asp Thr Gln Leu Lys Val Arg Gln Ile Lys Gln Glu Phe Phe Glu Gln
      245      250      255
Val Ser Gln Ser Ile Thr Glu Thr Arg Val Arg Leu Ala Glu Val Thr
      260      265      270
Glu Lys Glu Val Val Ala Ser Asp Ala Gln Lys Arg Ile Lys Ile Val
      275      280      285
Ser Pro Val Asn Gly Thr Ala Gln Asn Leu Arg Phe Phe Thr Glu Gly
      290      295      300
Ala Val Val Arg Ala Ala Glu Pro Leu Val Asp Ile Ala Pro Glu Asp
      305      310      315      320
Glu Ala Phe Val Ile Gln Ala His Phe Gln Pro Thr Asp Val Asp Asn
      325      330      335
Val His Met Gly Met Val Thr Glu Val Arg Leu Pro Ala Phe His Ser
      340      345      350
Ala Gly Asn Pro Asp Pro Glu Arg His Asp Pro Val Ala Val Ala Asp
      355      360      365
Arg Ile Ser Asp Pro Gln Lys Gln Ala Arg Leu Phe Leu Gly Ile Val
      370      375      380
Arg Val Asp Val Lys Gln Leu Pro Pro His Leu Arg Gly Arg Val Thr
      385      390      395      400
Ala Gly Met Pro Ala Gln Val Ile Val Pro Thr Gly Glu Arg Thr Val
      405      410      415
Leu Gln Tyr Leu Phe Ser Pro Leu Arg Asp Thr Leu Arg Thr Thr Met
      420      425      430
Arg Glu Glu
      435

```

<210> 6  
 <211> 100  
 <212> PRT  
 <213> Caulobacter sp. FWC1

```

<400> 6
Thr Thr Asp Thr Leu Lys Phe Ala Asn Thr Gly Thr Glu Thr Phe Thr
  1      5      10      15
Ser Thr Lys Val Asp Leu Thr Gly Val Asn Asp Phe Thr Ala Ala Leu
      20      25      30
Asn Ala Ala Ala Ala Gly Asn Gly Gly Asn Gly Ile Ile Thr Trp
      35      40      45
Phe Gln Tyr Gly Gly Asn Thr Tyr Ile Val Glu Asp Arg Asp Ala Gly
      50      55      60
Asn Thr Phe Asn Val Ala Thr Asp Ile Val Val Lys Leu Thr Gly Ala
      65      70      75      80
Val Asp Leu Ser Thr Ala Val Leu Ser Ala Phe Gly Arg Arg Ser Ser
      85      90      95
Leu Thr Leu Val
      100

```

<210> 7  
 <211> 100

&lt;212&gt; PRT

&lt;213&gt; Caulobacter sp. FWC19

&lt;400&gt; 7

Arg Ala His Met Ile Leu Lys Pro Thr Arg His Val Ser Asp Arg Trp  
 1 5 10 15  
 Gly Arg His Val Ala Arg Leu Val Gln Leu Pro Gly Arg Pro Cys Pro  
 20 25 30  
 Lys Leu Ser Asp Ala Ala Thr Thr Gly Asn Ala Ser His Lys Val Ser  
 35 40 45  
 Trp Phe Val Tyr Gly Gly Asp Thr Tyr Leu Val Lys Met Ser Thr Leu  
 50 55 60  
 Ala Pro Pro Ser Lys Thr Ala Arg Thr Ile Val Val Lys Leu Thr Gly  
 65 70 75 80  
 Thr Thr Asn Asp Leu Thr Lys Ala Thr Phe Asp Gly Ala Ala His Thr  
 85 90 95  
 Leu Thr Leu Gly  
 100

B1  
 Ancho